

REMARKS

Interview of July 26, 2007: William Toreki, one of the inventors in this application, and attorney Gerry Elman appreciatively acknowledge the Examiner's courtesy in conducting a personal interview on the aforesaid date. At the interview, various possible amendments to claims 1, 16, 30 and 51 were discussed, and new claims 70 to 78 were presented.

Applicant pointed out that the quaternary ammonium moieties on the polymers disclosed in U.S. Patent 5,783,502 of Swanson are in pendant groups rather than in the main chain of the polymer.

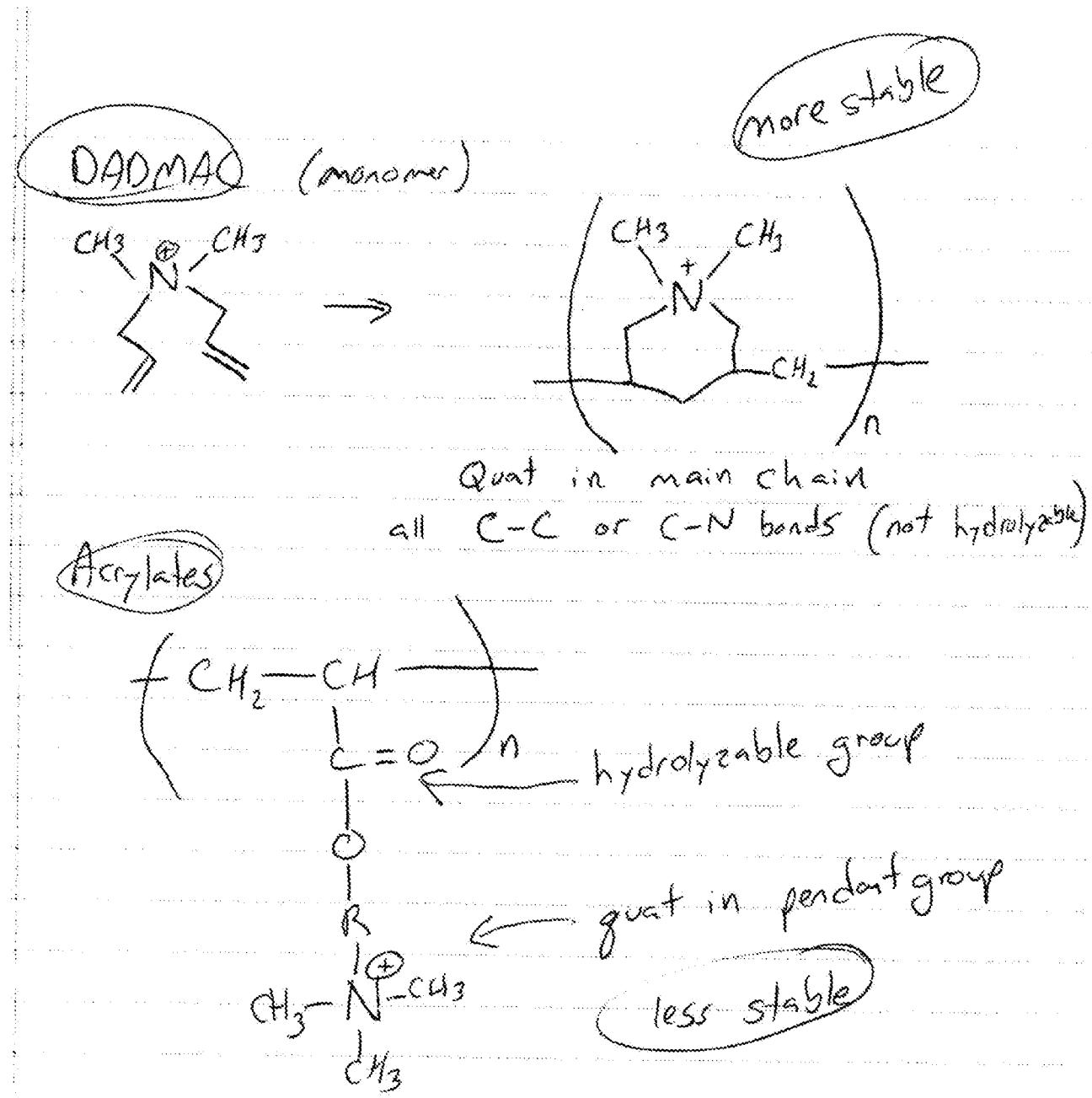
Applicant has found that polymers having such structure, though disclosed as potentially of some use, are nevertheless suboptimal for the present invention, being less stable to hydrolysis and generally having a lower charge density. See, e.g., Applicant's disclosure at paragraphs [0096] to [0100].

The Swanson reference teaches that the "inactivating groups" (col. 4, lines 55-56) that is, the quaternary ammonium moieties, be "pendant to the backbone." (col. 4, lines 56-57). The term "backbone" as used by Swanson is synonymous with "main chain" as used by Applicant. See, e.g. the IUPAC Gold Book defining the term "**main chain (backbone)** of a polymer" at <http://goldbook.iupac.org/M03694.html> as follows: "That **linear chain** to which all other **chains, long or short** or both, may be regarded as being pendant."

The Examiner invited Applicant to adopt language distinguishing the pendant groups of Swanson. Accordingly Applicant hereby amends claims 1, 16, 30 and 51 to provide that the recited quaternary ammonium structure or biguanide be "not pendant to the main chain of the polymer". Claim 51 also excludes bonding of the monomers by ester bonds.

The following page contains a copy of the sketch generated at the interview by Dr. Toreki, in which the polymer of DADMAC is shown at the top, in accordance with

the present claims. Distinguished from the polyDADMAC is a representation of a polymer of acrylates, showing below a quat in a pendant group, which would not be within the present claims.



Compare the foregoing with Formula 1 and Formula 2 shown in col. 5 of the Swanson patent. In each of those, the quaternary nitrogens, seen in the second bracketed moiety in each Formula, are on pendant groups.

The present application teaches individual polymer chains which do not react to each other, giving an “enhanced surface” with a higher available charge density of quaternary groups. See e.g. paragraph [0100] of the present application.

Claims 70-72 recite especially effective subject matter wherein the polymer is a homopolymer. Swanson teaches away from a homopolymer.

Claims 73-75 recite especially effective subject matter wherein the polymer is covalently bonded by non-ester bonds. Compare the polyDADMAC represented at the top of the preceding page (non-ester bonds) with the polyacrylates (ester bonds).

Claims 76-78 recite especially effective subject matter wherein the R', R" and R''' groups are C1 alkyl, that is, methyl groups. Use of trimethyl rather than longer hydrocarbon chains provides higher charge density. See e.g. paragraph [0098].

Claim Rejections – 35 U.S.C. § 102

Turning to the Action of February 12, 2007, claims 1-2, 5-14, 30-31, 33-42, 51-53, 57-58, 66 and 68-69 are rejected under 35 U.S.C. § 102(a) as anticipated by the aforesaid Swanson U.S. Patent 5,783,502. For the reasons discussed above, Applicant respectfully submits that the present amendments have distinguished the subject matter taught by Swanson so that the foregoing claims are neither anticipated nor made obvious by the Swanson patent reference.

Claim Rejections – 35 U.S.C. § 103

The Action rejects claims 4 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Mao U.S. Patent 6,346,125. Applicant respectfully traverses the rejection. Mao fails to supply what is missing from the teachings of Swanson as discussed above with regard to claims 1 and 30. Moreover, Mao's teaching of biguanide as antimicrobial agent a₄ at col. 4, lines 42-46 fails to suggest a **polymer** having monomeric moieties of a biguanide which contribute to the overall antimicrobial effectiveness of the polymer.

The Action rejects claims 15, 43-46, 54 and 67 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Kolb et al. U.S. Patent 6,797,856. Applicant respectfully traverses the rejection. Kolb et al. fails to supply what is missing from the teachings of Swanson as discussed above with regard to claims 1 and 30. Moreover, although Kolb refers to **DADMAC** at col. 6, line 26 in a wash list of “binding agents 70 that can be used to trap microorganisms” it fails to teach or suggest **polyDADMAC**.

The Action rejects claims 16-17, 20-28, 59-60 and 64-65 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Baker U.S. Patent 5,643,238. Applicant respectfully traverses the rejection. Baker, teaching superabsorbent material, nevertheless fails to supply what is missing from the teachings of Swanson as discussed above with regard to claim 16. Applicant notes that the column and line references on page 6 of the Office Action refer to the Swanson patent (rather than Baker). Thus the deficiencies of the teachings of Swanson noted above hold with regard to this rejection as well.

The Action rejects claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Baker and further in view of Mao. Applicant respectfully traverses the rejection, for the reasons mentioned above regarding the inadequacies of the teachings of Swanson, Baker and Mao. Put together, they still do not make claim 19.

The Action rejects claims 29 and 61 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Baker and further in view of Kolb. Applicant respectfully traverses the rejection. Neither Swanson, Baker nor Kolb teach the substances of claim 29. Claim 61 recites a polymer having antimicrobial monomeric moieties comprising DADMAC. As discussed above, Kolb refers to DADMAC as a substance itself, not as a monomer that has been polymerized.

The Action rejects claim 55 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Fairies, Jr., et al. U.S. Patent 5,816,252. Applicant respectfully traverses the rejection. Though Fairies, Jr., teaches a surgical drape having a liquid-

sensitive indicator to indicate a leak, it would be far-fetched to say that it “indicates a condition or status based on an aspect of said absorbed biological fluids” as recited in claim 55. Also, claim 55 is patentable for all of the reasons that claim 1 is.

The Action rejects claim 56 under 35 U.S.C. § 103(a) as being unpatentable over Swanson. Applicant respectfully traverses the rejection. Claim 56 is patentable for all of the reasons that claim 1 is.

The Action rejects claim 62 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Baker and further in view of Fairies, Jr. et al. Applicant respectfully traverses the rejection. Claim 62 is patentable for all of the reasons that claim 16 is and also as discussed above with respect to Fairies, Jr. as applied to claim 55.

The Action rejects claim 63 under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Baker. Applicant respectfully traverses the rejection. Claim 63 is patentable for all of the reasons that claim 16 is.

CONCLUSION

Applicant Toreki and Attorney Elman reiterate their appreciation of the Examiner’s courtesy in conducting the recent interview. It is believed that the discussion clarified the distinction between Applicant’s invention and the prior art and that the application as amended is now in condition for allowance. Prompt notice to that effect is respectfully solicited. If the Examiner has any questions or suggestions, she is cordially invited to phone Applicant’s undersigned attorney.

Respectfully submitted:

August 13, 2007

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